

Customer No.: 31561
Docket No.: 11121-US-PA
Application No.: 10/709,637

REMARKS

Present Status of the Application

The Examiner maintained her rejections in the Advisory Action. More specifically, the Examiner rejected Claims 1-4, 6, and 8 under 35 USC 103(a) as being unpatentable over Sakamoto (US 5,734,177) in view of Yamakita et al (US 20020105613). In addition, Claims 5 and 7 are rejected under 35 USC 103(a) as being unpatentable over Sakamoto (US 5,734,177) in view of Yamakita et al (US 20020105613) in view of Katayama (US 6,100,947).

Applicant has amended claims 1 and 8 to more clearly define the present invention and added claims 9-14 in which claim 9 is written in independent form teaching the feature that each storage capacitor has an upper electrode having at least a first aperture, while claims 10-14 are written in dependent form so as to further limit the claimed subject matter of claim 9 of the present invention. After entry of the foregoing amendments, claims 1-14 remain pending in the present application. It is believed that no new matter is added by way of these amendments made to the claims or otherwise to the application.

Applicant has most respectfully considered the remarks set forth in the Office Actions. Regarding the obvious rejections, it is however strongly believed that the cited references are deficient to adequately teach the claimed features as recited in the presently pending claims. The reasons that motivate the above position of the Applicant are

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discussed in detail hereafter, upon which reconsideration of the claims is most earnestly solicited.

Discussion of claim rejections under 35 USC 103(a)

The Office Action rejected Claims 1-4, 6, and 8 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US 5,734,177, hereinafter "Sakamoto") in view of Yamakita et al (US 20020105613, hereinafter "Yamakita").

Applicant respectfully submits that the independent claims 1 and 9 patently define over the prior references for at least the reason that the cited art fails to disclose or suggest each and every feature as claimed in the present invention.

The Office asserts that Sakamoto teaches forming a first aperture through or in the upper electrode in Figure 3A-3H. The Office also contends that Figure 3E of Sakamoto specifically "shows the cross section of Figure 1 (3a-3a) an upper electrode having a first aperture (the gap in 11)". The aperture that the Examiner alleged as the first aperture being formed through the upper electrode in Figure 3E is actually a cutting being formed through the ITO film 11 to separate the ITO film into an ITO upper electrode 11 for each pixel element. As taught by Sakamoto in col. 9, ln. 34-41 & Figure 1, "a photolithograph process is performed....in order to separate the ITO upper electrode 11 for each element.....". The gap in 11 as indicated by the circle in the attached Appendix of Figure 1 of Sakamoto is actually a cutting formed in the ITO film 11 to separate the ITO film into an ITO upper electrode for each pixel element. There is no teaching or suggestion by Sakamoto, especially in Figures 4A-4H, about an aperture being formed in or through each upper electrode for each pixel element as in the present invention. As

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clearly illustrated in Figures 4A-4H, the aperture 16 of Sakamoto that is being construed as comparable as the first aperture of the instant case is formed through an insulating film 13, rather than through the upper electrode so that a contact electrode 19 can make contact with the upper electrode 11 through the insulating film 13. The Office also contended in the Advisory Action that Sakamoto discloses the pixel electrode as shown in Figures 4A-4H "having a second aperture in order for the upper electrode to be electrically connected to the pixel electrode through the contact hole". However, in order for the pixel electrode to be electrically connected to the pixel electrode, it is not necessary for the pixel electrode itself to have an aperture. Instead, as shown in Figure 4H, the alleged second aperture is formed through the passivation layer 20 for the pixel electrode 23 to make contact with the upper electrode 11 through the connection electrode 19. In fact, there is no aperture being formed in or through the pixel electrode of Sakamoto.

Claims 8 and 14 substantially teach that each of pixel electrodes further comprises at least a second aperture when the first aperture is located underneath the pixel electrode, and the second aperture is formed above the first aperture. Not only Sakamoto fails to teach a first aperture being formed in the upper electrode of the storage capacitor, the contact hole 22 identified as the second aperture is formed in the passivation film 20, instead in the pixel electrode according to FIGs 4H and 7H in Sakamoto. Additionally, the contact hole 22 of Sakamoto is definitely not located directly above the contact hole 16 as taught in claim 8 of the present invention.

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The Office further alleges that Yamakita teaches the direction of the electric field adjacent to the first aperture being at a predetermined angle to an alignment direction of the liquid crystal molecules However, similar to Sakamoto, Yamakita also fails to teach or suggest an upper electrode of a storage capacitor having an aperture formed therein. Therefore, even if there were a motivation to combine Sakamoto with Yamakita, the combination still falls to render the claimed invention unpatentable. Accordingly, the present invention as set forth in claim 1 or 9 should not be considered as unpatentable over Sakamoto in view of Yamakita and should be allowable. Since independent claims 1 and 9 are allowable over the prior art of record, dependent claims 2-8 & 10-14 are allowable as a matter of law because these dependent claims contain all features of their respective claims 1 and 9, respectively. *In re Fine*, 83, F.2d 1071 (Fed. Cir 1988).

The Office Action also rejected Claims 5, 7 under 35 U.S.C. 103(a) as being unpatentable over Sakamoto (US 5,734,177, hereinafter "Sakamoto") and Yamakita et al (US 20020105613, hereinafter "Yamakita") in view of Katayama (US 6,100,947, hereinafter "Katayama")

Applicant respectfully disagree and would like to point out that even though the Examiner relied upon Katayama for teaching the use of a reflective electrode, still Katayama cannot cure the specific deficiencies of Sakamoto and Yamakita. Accordingly, claims 5, 7 also patently define over combination of Sakamoto, Yamakita and Katayama for at least the same reasons discussed above. Reconsideration is respectfully requested.

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CONCLUSION

For at least the foregoing reasons, it is believed that all Claims 1-14 of the present application patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted


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